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ABSTRACT

Reducing class size is an important step in promoting effective learning, but reducing a class from 35 to 15 students alone will not produce the desired results if faculty do not alter their teaching styles. Students must be empowered through teaching techniques that utilize writing, recitation, reaction papers, case studies, peer group pressure, small group and individual student responsibility, and peer instruction. The instructor must be a specially trained facilitator rather than a lecturer relying on tests and textbooks. The General Education curriculum is a logical target for introducing small classes in a community college because these courses seek to develop students' skills in inquiry and communication, and are required of all students. Financing a smaller classes plan would require faculty and administrators to agree to the following conditions: (1) all faculty in the general education curriculum volunteer to participate in the small class teaching plan and in workshops to maximize teaching effectiveness; (2) participating faculty agree to teach six sections of 15 students rather than five sections of 35 students with no additional compensation; (3) scheduling will allow participating faculty a four-day work week; (4) a project team will be established to meet weekly with faculty and discuss problems; and (5) to handle the overload of students, instructors wishing to teach five sections in the traditional lecture/question method will have class sections increased from 35 to 45 students. Since smaller classes increase retention, they can help defer the costs of expanding the smaller class format. To test the success of a small class project, institutions should measure classroom learning, retention rates, and the financial implications of the new plan. A model schedule matrix and small class financial plan is appended. (PAA)

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POLICY ISSUES AT THE COMMUNITY COLLEGE:

ESSAYS BY FELLOWS

IN THE MID-CAREER FELLOWSHIP PROGRAM

AT PRINCETON UNIVERSITY

MAY 1987

REDUCING CLASS SIZE AT THE COMMUNITY COLLEGE

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Harkness Plan:

I bought a delightful paperback in a bookstore a few summers back entitled: Lewis Perry of Exeter. It is an account of Lewis Perry's tenure as headmaster of Phillips Academy, the prestigious boarding school in Exeter, New Hampshire.

Exeter Academy, as it is called, enjoyed sudden wealth in the 1930's when Edward Harkness donated nearly $6 million to the school on one stipulation: change your teaching style! So, the school scrapped its traditional lecture system and placed students in classes of 12 to 15 "with their teachers around an oval table, looking at one another's faces rather than at the backs of one another's neck." Conversation and discussion, not lecture, would be the order of the day.[1] More than half the Harkness gift endowed the salaries of the new instructors needed to reduce the class size. "The result of this effort was a dramatically improved school in which learning proceeded more effectively than ever before at the 150 year old academy."[2] The Harkness Plan, as it came to be called, was later adopted at other prep schools and remains today at these institutions as the principle mode of instruction. Specifically, this mode is characterized by: small classes, maximum student-teacher interaction, reading, reciting, writing and reacting; in short, an active class room environment exists.

After all, these ingredients are what teaching and learning are all about.

> Reading and thinking, listening and thinking, speaking and thinking, writing and thinking - these processes are the essential activities of educated people... Education is "acts of cognition, not transferrals of information."[3]

The inherent components basic to these classes - reading, writing and exercising critical thinking skills -- are the same ingredients that we so desperately want to instill in our community college classrooms. Elitist boarding schools do have a message for their egalitarian, community college counterparts: reduce class size, empower students, activate the classroom and make the teacher a facilitator. Once this is accomplished, writing and reading across the curriculum becomes attainable and critical thinking and student retention should improve.

How many community colleges are consciously attempting to lower class size and the teacher/student ratio? Very few, I suspect. Yet, so much of what community colleges want to implement in the classroom requires smaller classes as a prerequisite for effective learning. Does your institution's educational agenda espouse similar objectives:

- plan to develop a "writing to think and learn" based college curriculum.
- develop new teaching methodologies for the classroom, relying less on one dimensional approaches.
- to apply to all courses of study the teaching and learning principles that have been identified as conducive to optimum teaching and learning.

- increase retention of Freshman and Sophomore students.

Can these objectives really be fulfilled in classrooms of 30 to 35 students? I don't think so. I believe all educators realize that writing and reading must be practiced to be learned and analytical skills and problem solving skills can only be honed and sharpened when exercised. Reducing at least some classes to 15 students gives them a real opportunity to master these skills. In this instance, small is definitely better.

New Teaching Methods Needed:

Reducing class size is important but that alone will not produce the desired results if faculty do not alter their teaching styles. The idea is not to lecture to 15 students rather than 35. The emphasis remains on empowering the student in a small group atmosphere. Teaching techniques will include: writing, recitation, reaction papers, case studies, peer group pressure, small group responsibility and students teaching students. Each class session will make students responsible for their own learning with the instructor acting as a facilitator to this process. Every effort will be made to eliminate objective tests, lectures, opscan forms and excessive reliance on textbooks. Making the transition from the traditional lecture/ question method to this student empowered method will not be easy. But it is an essential ingredient of the small class size proposal, and supported by recent research:

> Teachers in smaller classes were found to use more desirable classroom practices, such as greater variety

> of classroom techniques, more attention to individual students and more individualization of instruction.
>
> In general, the early studies of the effects of class size on teaching practices indicated that smaller classes tend to promote the use of more desirable teacher practices.[4]

The research on small classes warns that smaller classes do not guarantee that teachers will adapt their teaching practices to take advantage of the smaller class size. The research emphasizes the importance of high quality in the teaching staff if small classes are to produce the kinds of results that are to be expected.[5] Implied in my plan to reduce class size is the understanding that training and support of our faculty is needed. Bard College's Write to Learn/Write to Think workshops is but one example of the help that is available. After that, in-house workshops and seminars ought to provide some foundation for making small class teaching successful and effective. Hopefully, as an added benefit from this new approach and corresponding support system, comes the revitalization of faculty members.

Implementation: General Education Curriculum Only.

The General Education curriculum will be the target of introducing small classes in a community college. The purpose of General Education is to develop within students the "skills of inquiry, to communicate effectively and make informed judgments about themselves and their natural, cultural and social worlds."

This curriculum is germane to a small class environment and also, it is simply a good place to begin implementation.

All community college students must satisfy their General Education requirements in order to graduate. Therefore, many students could have at least 1 or 2 small class experiences before they graduate. Hopefully, through effective counseling and advising, fulltime freshmen and sophomores will fill these smaller classes. Students will now be able to come to a community college and enroll in small classes and participate in an experience completely different from their high school years or what they could expect at a state university.

Lastly, the general education curriculum transcends the traditional disciplines and departments -- so smaller classes can be instituted across the college organization. The focus of reducing class size will be on the Humanities, Social and Behavioral Sciences, Physical Sciences and Math. If we can find success here then we can expand the concept to appropriate career programs. But for the moment, community colleges could advertise with pride and distinction that classes of 15 are available in their general education curriculum. What other public institutions can make that claim to their incoming freshmen? We claim to be "teaching institutions" and finally we can put our resources behind this commitment to our students.

Financing of Smaller Classes at Community Colleges:

The financing of this plan is the most important factor towards its successful implementation. How can a community

college afford such a scheme? The New Jersey State funding formula for community colleges doesn't help us much in solving this problem. But I think we can introduce small classes anyway. This will require some compromise and negotiation between faculty and administration; all attainable where collegiality exists. Can faculty and administration agree to the following conditions as an impetus to implementation?

A All faculty members in the General Education curriculum volunteer to participate in the small class teaching plan, and volunteer to participate in workshops and seminars that will maximize teaching effectiveness in small classes.

B Participating faculty members agree to teach 6 sections rather than 5 and without additional compensation or overload pay. However, the administration agrees to set class limits at 15 students per class or 90 students per term per instructor. If faculty will accept the burden of an extra section without pay they can be assured by the administration of only 90 students. Faculty complaints about overloaded sections and "handling" 150 students per term will cease. In turn, the administration can demonstrate the faculty commitment to the plan by not paying for the additional faculty section.

C Participating faculty will be guaranteed a 4 day work week. Classes will meet for 75 minutes on Mondays and Thursdays or Tuesdays and Fridays. Faculty will teach three 75 minute classes per day with the initial maximum of 2 preparations per term. This matrix maximizes reading time between classes and also serves

as another incentive for the faculty to participate in the program. (See Appendix A.)

D Faculty and administration will agree that late registration for these courses will be kept to a minimum. These classes should close quickly because of their lower enrollment anyhow making this troublesome issue moot. Think of it - meaningful learning actually starts on the first day of class!

E A project team will be established of the participating faculty members. Matrix management at its best; they will meet to discuss their problems and success. Everyone is free on Wednesdays.

Extra adjuncts and 45 students per class:

If faculty do assume additional sections without extra compensation, this still does not solve the problem of serving all the students in the General Education curriculum. There will be a considerable overflow in some popular courses and these sections must be taught as inexpensively as possible if we are to subsidize our cadre of small classes. This problem can be solved in 2 ways:

1. Increase all other sections of a particular General Education course to 45 students per semester. If an instructor in the General Education curriculum wishes to teach the traditional 5 sections in the traditional lecture/question method, then increase the instructor's total students per semester to approximately 200. In many instances, instructors are now teaching 5 sections of 35

students each - a common occurrence in many popular community college courses. Is there a real injustice to the instructor or the student to teach 7 - 10 more students per term? What difference does it make in a forum that includes, lecture, objective tests, opscan forms and short essays? Once class size exceeds 20, the learning method is mostly lecture and the evaluation method is mostly objective. Is a student in a class of 45 appreciably worse off than in a class of 30? I don't think so. The empowerment of students to be active in their own learning takes place in neither class. So push some classes to 45 so the small class plan can have a fighting chance to survive under current state funding formulas.

Yes, some General Education courses will have class size of 15 while other identical courses will have class size of 45. This dichotomy is justified. Again, the smaller classes are directed at daytime students directly from high school. During their stay at a community college, they can experience many small classes as they move through the General Education curriculum. However, the evening students in larger classes will learn pretty much as before irregardless of whether class size is 30 or 45.

Faculty choice within their new system will always be maximized. They can choose between teaching more sections and fewer students or less sections and more students.

2. Extra adjunct faculty members must be hired to teach the additional sections created by small classes. However, adjunct expense should be kept to a minimum with 45 students in their sections. See Appendix B which demonstrates how to serve 268 psychology students under existing community college conditions and under the proposed small class teaching plan. Indeed, extra adjuncts "will cost more money" so implementing this strategy will require some administrative foresight. But this should not be an insurmountable barrier since the faculty are making a genuine effort by accepting an additional section without compensation.

Small Class Size and Student Retention

In July, 1986, the Education Commission of the States issued a report entitled: Transforming the State Role in Undergraduate Education. They addressed the issue of retention by focusing on three challenges:

1) to improve overall rates of college participation and completion (especially for minorities).
2) to meet the educational needs of an increasingly diverse student population.
3) to build greater student involvement in the undergraduate experience.[6]

The report stated that "college...completion rates, especially minorities, are declining at a time when educational attainment should be rising."[7] Possibly, small class size and a student empowered approach to learning is one of the keys to increasing student retention. Below are two conclusions from a new text

called: Class Size Research: A Related Cluster Analysis for Decisionmaking.

1) The research evidence is rather consistent to finding that students who are economically disadvantaged or from an ethnic minority achieve more academically in smaller classes.

2) 6 or the 8 general studies found that increased pupil achievement for disadvantaged or ethnic minority students tended to increase as pupil-teacher ratios decreased.[8]

Admittedly, this research is based on findings at the elementary and secondary level. But it should provide a catalyst for our thinking about handling similar problems at the community college level. Other studies on retention point out that smaller classes may provide an answer to keeping students in school. Noel and Levitz contend that students who are fully integrated into the college will have the highest persistence rates. Student satisfaction is essential.

> This satisfaction is manufactured in classrooms by competent, caring faculty who believe that their mission is to reach individual students and have a positive impact on their lives. This is particularly true at a commuter institution where 90 to 95% of the contacts by students with that institution occur in the classroom. And promoting good teaching, in turn, takes alot of reinforcement from concerned, aware administrators who recognize the importance of the relationship between teacher and student...[9]

If student retention rates increase while smaller classes and student empowered instruction flourish, then the financing of this project at the community college level is greatly improved. Student retention efforts should focus on the Freshman year, where simultaneously small classes in the General Education curriculum will focus. As Woody Allen quipped, "eighty percent

of success in life is showing up." So, smaller classes should increase persistence levels but moreover, the financial benefits of better student retention, means that small classes could be implemented on a sound financial basis.

Summary

As the small class project is implemented, institutions should establish some devices to measure success. At least three areas need to be examined.

1) Measure the learning that takes place in small classes as opposed to larger classes. Robinson and Wittebols stated:

> In 13 or the 22 studies in this cluster, teachers in smaller classes were found to use more desirable classroom practices, such as greater variety of classroom techniques, more attention to individual students and more individualization of instruction. However, some of the research studies were criticized for assuming that certain teaching practices and procedures are superior to others without validation of their superiority in terms of student achievement.[10]

Let us put small class teaching practices to the test in our community college classrooms by establishing a cadre of classes that we can use for examination and experimentation.

2) Measure the extent to which retention efforts are improved by placing students in smaller classes.

3) Monitor the financial implications of this plan.

My intuition tells me that students learn more in smaller classes than larger ones. More student activities leading to better student learning take place, and more creative teaching is required by the faculty to generate these student activities. But let us establish a system to test those assumptions. If community colleges pride themselves as "teaching institutions", then there's no better place to begin implementing a plan for smaller classes.

APPENDIX A

Princeton Mid-Career Fellowship Program

	Existing Plan	Small Class Plan
Faculty	5 classes	6 classes
Contractual	3 hours	3 hours
Load	15 Total Weekly hrs	18 Total Weekly hrs
Class Size	35 students/class	15 students/class
	175 students/term	90 students/term
	9 weekly meetings	12 weekly meetings
	3 50 min. classes	
	2 75 min. classes	2 75 min. classes
	1 150 min. class	
	5 day week	4 day week
State Instructional Requirements	150 minutes per week 45 semester hours	150 minutes per week 45 semester hours

APPENDIX B

EXAMPLES

General Psychology

	Number of Faculty	Number of Sections	Total Sections	Students/ Section	Total Students
I. Existing Plan	2	5	10	26.8	**268**
II. Small Class Plan	2	6	12 x (15 students)	15	180
Extra Adjuncts	2	2	2 x (44 students)	44	88
				TOTAL	**268**

Communications I

	Number of Faculty	Number of Sections	Total Sections	Students/ Section	Total Students
I. Existing Plan	3	5	15	23	**345**
II. Small Class Plan	3	6	18 x (15 students)	15	270
Extra Adjuncts	3	3	3 x (23 students)	23*	69
				TOTAL	**339**

* Communications I sections are already limited to 23 students per section.

Footnotes

1) William Saltonstall, Lewis Perry of Exetor (New York: Atheneum, 1980) 65.

2) Ibid

3) Toby Fulwiler, "Writing: An Act of Cognition" in C.W. Griffin (Ed.) New Directions For Teaching and Learning: Teaching Writing in All Disciplines. (San Francisco: Jossey-Bass) 21.

4) Glen E. Robinson and James H. Wittebols, Class Size Research. A Related Cluster Analysis for Decisionmaking (Educational Research Service, Inc., 1987) 200.

5) Ibid.

6) Transforming the State Role in Undergraduate Education: Time For A Different View (Education Commission of the States, 1986) 14-17.

7) Ibid; p. 14-15.

8) Robinson & Wittebols, p. 199-200.

9) Lee Noel and Randi Levitz, "Student Retention Strategies and Practices." Paper commissioned by the Fund For the Development of Collegiate Education, N.J. Department of Higher Education, March 28, 1986, p. 8.

10) Robinson & Wittebols, p. 200.

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